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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/975,548	10/12/2001	Heikki Suonsivu	P 280414	7503
909	7590	05/01/2006	2010740US/VK/kop	
PILLSBURY WINTHROP SHAW PITTMAN, LLP P.O. BOX 10500 MCLEAN, VA 22102			EXAMINER	
			KIM, KEVIN	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/975,548	<b>Applicant(s)</b> SUONSIVU ET AL.	
	<b>Examiner</b> Kevin Y. Kim	<b>Art Unit</b> 2611	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed on February 10, 2006 have been fully considered but they are not persuasive.

Upon a review of the previous Office action, it came to the examiner's attention that the action did not indicate that the transceiver unit of Swisher for the purpose of meeting the claimed transceiver comprises the computer (178) and telephone (174). Because these are construed as "a unit," a VDSL downlink frequency is used to convey information from the data network to the subscriber's unit (i.e., the computer (178) and telephone (174)) and a non-VDSL uplink frequency band is used to convey information from the unit to the data network.

Since the interpretation of the prior art was somewhat incomplete in the previous Office action, this Office action is made non-final so that applicant can respond to the ground of rejection fully informed.

Turning to the arguments in the applicant's response, Applicant amended claim 1 by adding the further limitation of "the at least one non-VDSL uplink frequency band is located below 138kHz" and argues that none of the cited prior art references teach the recited frequency band for carrying information from the subscriber's transceiver unit to the network. However, this limitation was address in the previous Office action in connection with claim 13 requiring that the non-VDSL uplink frequency band to have an upper limit of approximately 138 KHz. Since POTS uses bandwidth of 3 KHz, it meets the limitation of "an upper limit of approximately 138 KHz" as the bandwidth falls into the claimed range.

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Applicant also assert that Mestdagh fails to teach the claimed invention.

Mestdagh teaches transmitting information over a DSL frequency band in a normal mode. See col. 6, lines 15-27. And when the DSL operation fails an analog signal is transmitted without going through the DSL multiplexer/demultiplexer, by operating the switches, indicating a POTS band is used for communication of the analog signal.

Although the description is made of the downlink direction, Mestdagh teaches that the uplink direction is similar to the disclosed down link. See col.5, lines 1-5.

In addition, applicant asserts that examiner fails to show that the substitution of VDSL for ADSL would have been obvious. As pointed in the previous action, VDSL is just an advanced form of ADSL for faster transmission and this upgrading benefit is well known in the art. Thus, the motivation for changing an ADSL to a VDSL is "in the knowledge generally available to one of ordinary skill in the art."

### ***Claim Rejections - 35 USC § 102***

2. Claims 1,3,5-8,10 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Swisher (US 6,385,253, previously cited).

Consider **claim 1**.

Swisher discloses a method of transmitting information between a data network (not shown but coupled to BDT 100 shown in Fig.1) and a subscriber's transceiver unit comprised of a computer (178) and a telephone (174), comprising;

using a VDSL downstream frequency band (see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber's transceiver unit, see col.3, lines 8-10,

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using a “non-VDSL uplink frequency band” (POTS in Fig.2) for conveying information from the subscriber’s transceiver to the network. See col. 2, lines 55-61.

**Claim 3.**

Swisher discloses using the POTS frequency band “even [when] at least one VDSL uplink band” (220) is usable. In other words, the POTS band is be used at the same time the VDSL band is used.

**Claim 5.**

Referring to Fig. 3, Swisher discloses a subscriber’s transceiver unit comprised of a computer (178) and a telephone (174) in communication with a data network (not shown but coupled to BDT 100 shown in Fig.1), comprising;

downlink filter means (150) for using “at least one VDSL downstream frequency band” (230, see Fig.2) for transmitting a signal, i.e., information from the network to the subscriber’s transceiver unit, see col. 3, lines 8-10,

uplink filter means (150) for using “at least one non-VDSL down frequency band” ( POTS or ISDN frequency band 200, 210 in Fig.2) for conveying information from the subscriber’s transceiver to the network. See col. 2, line 65 – col.3, line 2.

**Claim 6.**

The uplink filter means (150) of Swisher also allows the use of at least one VDSL upstream link frequency band (230). See Fig.2.

**Claim 7.**

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The filter means (150) of Swisher includes a POTS splitter LPF (350) that reads on “a bandstop filter” for implementing the non-VDSL uplink frequency band” since it stops all VDLS frequencies from being transmitted and passes the non-VDSL uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

**Claim 8**, the filter means (150) of Swisher includes a POTS splitter LPF (350) that reads on “a first bandpass filter” for the non-VDSL uplink frequency band since it passes only the non-VDSL uplink frequency band to the network, and “a second band pass filter” (345) for at least one VDLS uplink frequency band since it passes only VDSL frequency bands to the network.

**Claim 10.**

The filter means (150) of Swisher includes HPF (345) that reads on “a bandstop filter” it stop non VDSL frequencies from being transmitted and passes DLS uplink frequency band to the network. It should be noted that the claim fails to define what frequency is to be “stopped” by the bandstop filter.

**Claim 13.**

The lower limit of VDSL frequency is 138 kHz according to the industry standard. See ETSI Specification submitted by Applicant. Therefore, the non-VDSL frequency band, which is located below the VDSL frequency band as shown in Fig. 2 of Swisher is “approximately 138kHz.”

***Claim Rejections - 35 USC § 103***

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mestdagh, et al (EP 0 740 451 A cited previously).

**Claim 1.**

Mestdagh et al discloses a method of transmitting information between a data network (CO-IM) and a subscriber's transceiver unit (S-IM), see the only Figure, comprising;

using an ADSL downstream frequency band for transmitting a signal, i.e., information from the network to the subscriber's transceiver unit and

using an alternative path, i.e., "non-VDSL uplink frequency band" for conveying information from the subscriber's transceiver to the network. See Abstract . Claimed invention recites VDSL as opposed to ADSL. However, as well known in the art, VDSL is another (faster) form ADSL. Thus, it would have been obvious to substitute VDSL as the broadband technique in the Mestdagh et al's system for providing a faster broadband service.

**Claim 2.**

Mestdagh, et al discloses using the alternative path when the ADSL equipment fails, i.e., "only if no VDSL uplink bands are usable."

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253 previously cited), as applied to claim 1 above, in view of Furukawa (EP 1 024 648, part of IDS submitted by Applicant).

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Swisher discloses all the claimed subject matter of claim 1 as explained above but fails to teach “the transceiver unit negotiating with its peer entity as to whether at least one VDSL uplink band is usable.” Referring to Fig.3c, Furukawa teaches an initialization between two VDSL transceivers. See col. 3, line 66 – col.4, line 10. One method of the initialization involves a negotiation between the two transceivers to determine whether at least one VDSL frequency band is usable for upstream communication in order to locate an adequate upstream frequency band. See col. 4, line 61 – col. 5, line 15. Thus, it would have been obvious to one skilled in the art at the time the invention was made to design the transceiver unit of Swisher to negotiate with its peer transceiver as to whether at least one VDSL upstream band is usable for the purpose of locate an adequate upstream frequency band, as taught by Furukawa.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher as applied to claim 10 above.

Swisher discloses all the subject matter claimed but for the transceiver further comprising “a switchable high-pass filter in series with the bandstop filter,” and the bandstop filter comprising “at least one switchable coil.” It is known in the art various designs are available to suit needs of a particular filtering requirement. Thus, it appears that it would have been obvious matter of design choice to construct the filter in a multi-filter fashion using another filter in series or using a switchable coil, i.e., an inductor, an essential element in a bandpass filter.



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6. Claim 9 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swisher (US 6,385,253 previously cited) as applied to claim 8 and 5 above respectively and in view of Shenoi (US 6,829,292 previously cited).

Swisher discloses all the claimed subject matter of claim 8 as explained above but fails to teach "a separate bandpass filter for each VDSL uplink frequency band."

Referring to Fig.4 Shenoi teaches a separate bandpass filter (104) for each upstream upstream frequency band so that each frequency band can be independently gain-adjusted, which would result in a better performance since channel characteristics vary depending on transmission frequency. See col.7, lines 2-13. Thus, it would have been obvious to one skilled in the art at the time the invention was made to provide a separate bandpass filter for each upstream frequency band in Swisher's transceiver for the purpose of separately amplifying the upstream stream in accordance with its frequency characteristics, as taught by Shenoi.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 27, 2006

A handwritten signature in cursive script, appearing to read "Kevin Kim".

**KEVIN KIM  
PATENT EXAMINER**